

ELECTRONIC APPARATUS AND METHOD OF CONTROLLING ELECTRONIC
APPARATUS

BACKGROUND OF THE INVENTION

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Field of the Invention

[0001] The present invention relates to an electronic apparatus, and more particularly to a battery-driven electronic apparatus and a method of controlling the 10 electronic apparatus.

Description of the Related Art

[0002] Portable electronic apparatuses capable of playing games and watching visual contents have been prevailing recently. Some of these electronic apparatuses have 15 performance as high as favorably comparable with that of stationary apparatuses, so that users can enjoy a wide variety of games and other contents.

[0003] For such electronic apparatuses, battery life is a significant performance factor. Even if contents and other 20 software products are available sufficiently, users are likely to become frustrated if battery life is limited.

SUMMARY OF THE INVENTION

25 [0004] It is thus an intention of the present invention to provide an electronic apparatus which can extend battery life. While so-called power management technologies are conventionally known, the present invention provides an electronic apparatus that can exercise control more closely

corresponding to the status of use by its user. For that purpose, the electronic apparatus of the present invention makes an adjustment to processing load in accordance with a remaining battery level.

5 [0005] One of the embodiments of the present invention relates to an electronic apparatus. This electronic apparatus is powered by a battery, comprising: a graphics unit which performs drawing processing of an image; a monitoring unit which detects a remaining battery level; and an adjustment unit

10 which adjusts load of the drawing processing in the graphics unit by executing measures for changing a level of spatial detail drawn in the graphics unit, in accordance with the remaining battery level detected by the monitoring unit.

[0006] Incidentally, any combinations of the foregoing components, and any conversions of expressions of the present invention from/into methods, apparatuses, systems, recording media, computer programs, and the like are also intended to constitute applicable aspects of the present invention.

WHAT IS CLAIMED IS:

[1] (Amended) An electronic apparatus driven by a battery, comprising:

 a graphics unit which performs drawing processing of an image;

 a monitoring unit which detects a remaining level of the battery; and

 an adjustment unit which adjusts load of the drawing processing of the graphics unit by executing measures for changing a level of spatial detail drawn in the graphics unit, in accordance with the remaining level of the battery detected by the monitoring unit.

[2] (Deleted)

[3] (Deleted)

[4] (Deleted)

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[9] (Amended) A computer program to be executed by a computer provided in an electronic apparatus driven by a battery, the program making the computer exercise the functions of:

 drawing an image;

 detecting a remaining level of the battery of the electronic apparatus; and

 adjusting processing load of the drawing by executing a measure for changing a level of spatial detail drawn in accordance with the remaining level of the battery detected.

[10] (Amended) The computer program according to claim 9, making the computer exercise the function of executing a plurality of measures for adjusting the processing load of the drawing in combination stepwise in accordance with a degree of progress of a game executed by the electronic apparatus with respect to its process to an end, aside from the remaining level of the battery.

[11] (Deleted)

[12] (Amended) A recording medium provided in an electronic apparatus driven by a battery, the recording medium containing a computer program for making a computer exercise the functions of:

 drawing an image;

 detecting a remaining level of the battery of the electronic apparatus; and

 adjusting processing load of the drawing by executing a measure for changing a level of spatial detail drawn in accordance with the remaining level of the battery detected.

[13] (Amended) A method of controlling an electronic apparatus for drawing an image, the method comprising:

 detecting a remaining level of a battery of the electronic apparatus; and

 adjusting processing load of the drawing by executing a measure for changing a level of spatial detail drawn in accordance with the remaining level of the battery detected.

[14] (New) The electronic apparatus according to claim 1, wherein the adjustment unit executes a plurality of measures for adjusting the load of the drawing processing in combination stepwise in accordance with a degree of progress of a game executed by the electronic apparatus with respect to its process to an end, aside from the remaining level of the battery.

[15] (New) The electronic apparatus according to claim 1, wherein the adjustment unit lowers LOD (Level of Detail) of the image to reduce the load of the drawing process when the remaining level of the battery detected falls below a predetermined threshold.

[16] (New) The electronic apparatus according to claim 1, wherein the adjustment unit reduces the number of polygons included in the image to reduce the load of the drawing process when the remaining level of the battery detected falls below a predetermined threshold.

[17] (New) The electronic apparatus according to claim 1, wherein the adjustment unit simplifies surface rendering of the image to reduce the load of the drawing process when the remaining level of the battery detected falls below a predetermined threshold.

[18] (New) The electronic apparatus according to claim 1, wherein the adjustment unit reduces the number of effects included in the image to reduce the load of the drawing process when the remaining level of the battery detected falls below a predetermined threshold.

[19] (New) The electronic apparatus according to claim 1, wherein the adjustment unit puts a far plane of view volume closer to a point of view, thereby reducing the number of objects included in the image to reduce the load of the drawing process, when the remaining level of the battery detected falls below a predetermined threshold.

[20] (New) The electronic apparatus according to claim 1, wherein the adjustment unit hides at least part of objects included in the image to reduce the load of the drawing process when the remaining level of the battery detected falls below a predetermined threshold.

[21] (New) The electronic apparatus according to claim 1, wherein the adjustment unit decreases the number of spatial dimensions of the image to reduce the load of the drawing process when the remaining level of the battery detected falls below a predetermined threshold.

[22] (New) The electronic apparatus according to claim 1, wherein the adjustment unit limits shading processing in the graphics unit to reduce the load of the drawing process when the remaining level of the battery detected falls below a predetermined threshold.

[23] (New) An electronic apparatus driven by a battery, comprising:

 a graphics unit which performs drawing processing of an image;

a monitoring unit which detects a remaining level of the battery; and

an adjustment unit which adjusts load of the drawing processing in the graphics unit by changing an operation of an object included in the image in accordance with the remaining level of the battery detected by the monitoring unit.

[24] (New) An electronic apparatus driven by a battery, comprising:

a control unit which exercises control for supporting an I/O system;

a monitoring unit which detects a remaining level of the battery; and

an adjustment unit which limits processing for supporting the I/O system to reduce load of processing in the control unit when the remaining level of the battery detected by the monitoring unit falls below a predetermined level.